

DERWENT-ACC-NO: 1986-249168

DERWENT-WEEK: 198638

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TITLE: Sintered ornamental alloy for watch cases, necklaces, etc. - comprises titanium carbide and/or tantalum carbide, 1 or more of chromium, molybdenum and chromium carbide, nickel and tungsten carbide

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PRIORITY-DATA: 1985JP-0019091 (February 2, 1985)

PATENT-FAMILY:

| PUB-NO        | PAGES | PUB-DATE          |     |
|---------------|-------|-------------------|-----|
| LANGUAGE      |       | MAIN-IPC          |     |
| JP 61177351 A |       | August 9, 1986    | N/A |
| 004           | N/A   |                   |     |
| JP 87054856 B |       | November 17, 1987 | N/A |
| 000           | N/A   |                   |     |

APPLICATION-DATA:

| PUB-NO         | APPL-DESCRIPTOR  | APPL-NO |
|----------------|------------------|---------|
| APPL-DATE      |                  |         |
| JP 61177351A   | N/A              |         |
| 1985JP-0019091 | February 2, 1985 |         |

INT-CL (IPC): C22C029/08, G04B037/22

ABSTRACTED-PUB-NO: JP 61177351A

BASIC-ABSTRACT:

The sintered alloy comprises (in wt.%) 1-5 TiC and/or TaC, 2-5 of one or more of Cr, Mo, and CR3C2, 15-19 Ni, and balance WC. The WC has an average particle size of 1.0-2.0 microns.

USE/ADVANTAGE - The alloy is used for watch cases, necklaces, and other ornamental parts, and has a hardness as high as 1100-1300 Hv, good corrosion resistance and brazing ability w.r.t. stainless steel and to Inconel.

In an example, powdered compsn. comprising (by wt.) 82% WC (average particle size 1.0-2.0 microns), 15% Ni (2.5 microns), 1% Cr (4.0 microns), 0.5 Cr<sub>3</sub>C<sub>2</sub> (4 microns), 0.5% Mo (2.0 microns), 0.5% TiC (1.5 microns), and 0.5% TaC (1.5 microns) was mixed in wet type ball mill for 120 hrs., dried, paraffin added, compression moulded under 1.5 ton/cm<sup>2</sup>, then presintered at 800 deg.C under vacuum to remove paraffin, and sintered at 1350 deg.C for 30-60 min. in 3 x 10 power -2 to 3 x 10 power -1 Torr vacuum, and ground using diamond. The sintered alloy obtd. had a hardness of 1290 Hv, deflective strength of 220-250 kg/mm<sup>2</sup>, specific gravity of 13.63, good corrosion resistance to synthetic sweat, exhibited no cracking after brazing with Inconel, and no reaction with carbon during sintering.

CHOSEN-DRAWING: Dwg.0/2

TITLE-TERMS: SINTER ORNAMENT ALLOY WATCH CASE NECKLACE  
COMPRISE TITANIUM

CARBIDE TANTALUM CARBIDE MORE CHROMIUM  
MOLYBDENUM CHROMIUM CARBIDE  
NICKEL TUNGSTEN CARBIDE

DERWENT-CLASS: L02 M22

CPI-CODES: L02-J01B; M22-H03F;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1986-107341